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POPULATION AND WATER USE TRENDS AND PROJECTIONS

THE 21ST CENTURY:

A PROMISING ERA OF GROWTH AND PROSPERITY

The 21st century holds bright prospects for the Weber River Basin. Livable communities, education and employment opportunities, a pleasant climate, beautiful mountains, and a broad range of recreational opportunities will encourage current residents and their children to stay and others to move to the region. As a result, the Weber River Basin's population growth is expected to continue well into the foreseeable future.

With such growth comes an abundance of issues and challenges for the leaders in the area. How to plan infrastructure and manage resources are some of the important issues that they will need to resolve effectively. One certainty is that additional water will be required for municipal and industrial (M&I) purposes. This chapter looks at some of these issues and attempts to quantify the amount of water that will be needed to meet future needs. Chapters 4, 5 and 6 address how these needs will likely be met.

Economic/Employment Trends and Projections

Employment opportunities directly influence population growth. Utah's population and economic growth rates are projected to continue to out-pace most of the nation through the year 2020. The Weber River Basin will experience a large portion of this growth. In 1994, the total number of people employed in Utah reached 1 million. About 200,000 (20 percent) of these people were employed in the Weber River Basin. While total

employment in Utah is expected to double to 2 million by the year 2020, employment in the basin is expected to grow at a slightly slower rate, not doubling to over 400,000 until 2025.[1]

Although agricultural employment in the basin has risen steadily since 1995, the long-term trend in all but Weber County shows agricultural employment slowly declining. Mining employment, which is a minor component of the basin total, is also expected to slowly decline. Other employment sectors are expected to remain constant or grow at varying rates.

Military employment is a major economic influence in the Weber River Basin. Throughout much of the 1990s, the U.S. military scaled back much of its forces, closing bases and down-sizing operations. In 1997, the Ogden Defense Depot was closed as part of this consolidation. During this period, Hill Air Force Base (HAFB) was also included on lists for possible closure. Although the events of September 11, 2001 and subsequent military actions throughout the world have increased military and national security budgets, the military continues to consolidate its facilities to eliminate duplication and improve efficiency. Additional closures are expected to occur again as early as 2005. If HAFB is targeted for closure, it could have a dramatic effect on the basin's economy.

The ski industry also is a significant player in the economy of the Weber River Basin. The basin has six ski resorts, including world-renowned ski areas at Park City, Deer Valley and Snow Basin. While the year-to-year success of the ski industry is reliant to some extent on the weather, the industry is a steady and important contributor to the basin's economy.

Population Trends and Projections

From the time Mormon immigrants first settled at Fort Buenaventura in 1847 until now, the basin's population has grown steadily. With exception of the Great Depression and a few years during the 1940s, this growth

has occurred at a rate of at least 1 percent every year, with an annual average of nearly 3 percent. Shortly after the construction of Hill Air Force Base and other military depots in Weber County, the basin experienced very rapid growth. In 1942, the basin population grew 8 percent. In 1943, the basin population increased an astounding 23 percent. Since 1940, Davis County has experienced the most rapid rate of growth of any area in the basin, growing at an average annual rate of about 5 percent.[2]

According to the 2000 Census, the Weber River Basin's population was about 472,000 in 2000. The Governor's Office of Planning and Budget projects this population to increase to 699,000 by 2020, and nearly double to about 939,000 by 2050. The highest rate of growth will occur in Summit County, where the population is projected to increase from the 2000 level of about 29,000 to nearly 102,000 in 2050; this is equivalent to a 250 percent increase, or an annual rate of growth of 5 percent. Davis County is expected to have the slowest rate of growth over the same period, increasing from 239,000 to 404,000, or about 69 percent (1.4 percent per year). For a breakdown of population projections by city and town within the basin, see Table 7.

The basin's 2000 population is distributed as shown in Figure 7. Approximately 95 percent of the basin's population currently lives in the area known as the Greater Wasatch Area. The Greater Wasatch Area extends roughly 50 miles north and 70 miles south of Salt Lake City (Brigham City to Nephi) and extends approximately 30 miles west and 30 miles east (Tooele to Park City).

The 2000 Census provides some interesting insight into population growth in Utah and the Weber River Basin. According to the census, two of the four most highly populated counties in Utah are located in the basin. They are Davis County (3) and Weber County (4). The Weber River Basin is also Utah's second most populous basin, trailing only the Jordan River Basin (Salt Lake County). The Weber River Basin also contains the fastest growing county in Utah, Summit County. During the 1990-2000 period, Summit County's population nearly doubled, increasing 92 percent. The Weber River Basin also contains five of the

state's 20 largest cities: Ogden (6), Layton (8), Bountiful (12), Roy (14) and Clearfield (17). The fastest growing city in the basin over the ten-year period was Syracuse, where the population increased 102 percent.

Quality Growth

In 1999, the legislature passed the Quality Growth Act to help address the challenges associated with Utah's rapid growth and help ensure that growth takes place in an orderly and efficient manner. The act created the Quality Growth Commission and directed it to administer a land conservation fund, allocate local planning grants, and make recommendations to the legislature on growth issues. The commission has since defined quality growth as "creating a responsible balance between the protection of natural resources—land, air, and water—and the requisite development of

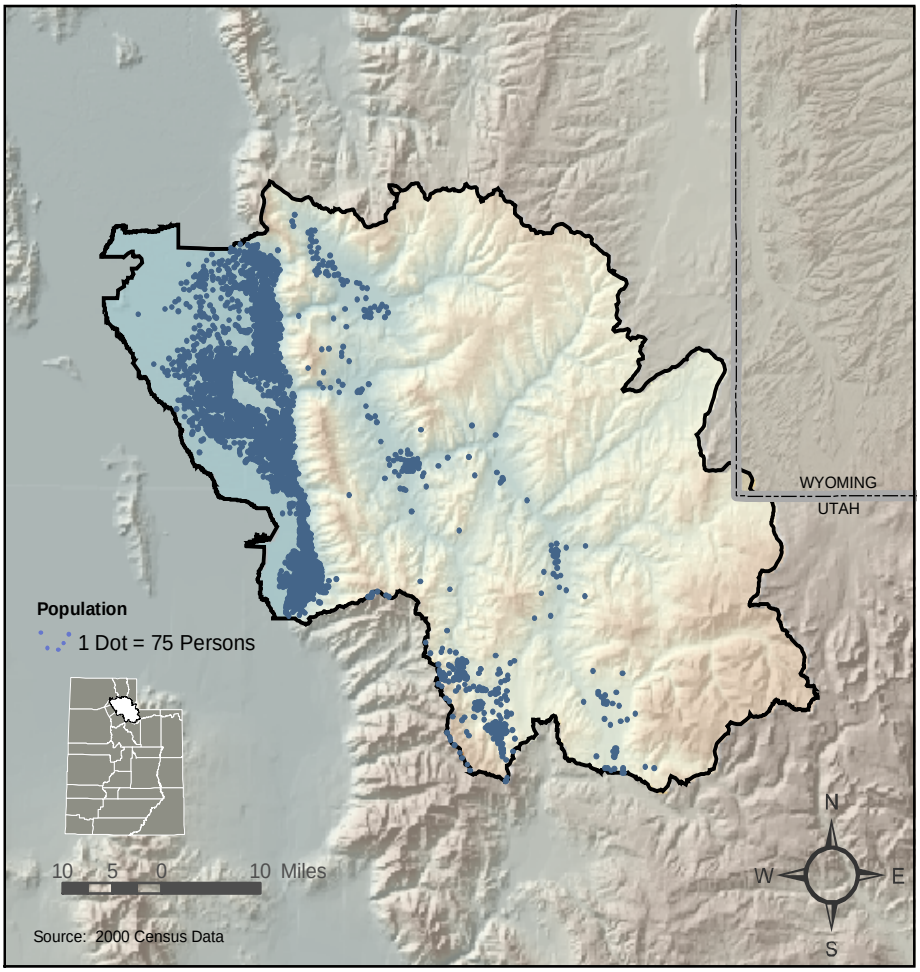
TABLE 7
Weber River Basin Population Projections

City / Town	2000	2020	2050†
Davis County			
Bountiful city	41,301	42,311	46,769
Centerville city	14,585	16,573	18,909
Clearfield city	25,974	28,731	31,210
Clinton city	12,585	21,101	24,244
Farmington city	12,081	19,821	24,093
Fruit Heights city	4,701	8,119	10,621
Kaysville city	20,351	34,629	42,333
Layton city	58,474	85,298	100,541
North Salt Lake city	8,749	9,714	11,239
South Weber city	4,260	11,064	12,030
Sunset city	5,204	5,305	5,603
Syracuse city	9,398	35,002	41,028
West Bountiful city	4,484	5,748	7,619
West Point city	6,033	9,495	11,779
Woods Cross city	6,419	9,689	10,677
Balance of County	4,395	4,810	5,627
COUNTY TOTAL	**238,994**	**347,412**	**404,322**
Morgan County			
Morgan city	2,635	3,620	5,884
Balance of County	4,494	6,361	9,805
COUNTY TOTAL	**7,129**	**9,981**	**15,689**
Summit County			
Coalville city	1,382	3,306	5,595
Henefer town	684	1,604	2,714
Kamas city	1,274	2,984	5,049
Oakley town	948	2,981	6,135
Park City city	7,371	17,634	20,390
Balance of Summit County	16,397	24,298	58,287
COUNTY TOTAL	**28,056**	**52,806**	**98,170**
Weber County			
Farr West city	3,094	5,610	9,374
Harrisville city	3,645	7,034	12,243
Hooper city	4,081	6,818*	10,093*
Huntsville town	649	1,006	1,489
Marriott-Slaterville Town	1,425	2,377	3,974
North Ogden city	15,026	31,272	45,741
Ogden city	77,226	94,597	134,191
Plain City city	3,489	7,952	11,692
Pleasant View city	5,632	7,023	9,885
Riverdale city	7,656	9,509	13,504
Roy city	32,885	52,783*	76,014*
South Ogden city	14,377	20,014	29,232
Uintah town	1,127	1,878	2,775
Washington Terrace city	8,551	11,967	17,201
West Haven city	3,976	5,615*	8,416*
Balance of County	13,694	21,465	31,097
COUNTY TOTAL	**196,533**	**286,919**	**416,920**
WEBER RIVER BASIN TOTAL	**471,694**	**698,573**	**938,591**

* These numbers do not reflect recent changes in boundaries for Hooper, Roy and West Haven. Local officials estimate that Roy's 2050 population will not exceed 45,000; therefore, Hooper and West Haven populations will be higher than shown.
† The 2050 projections are not official projections; they are presented here for scenario analysis only.
Source: Governor's Office of Planning and Budget, "2002 Baseline City Population Projections," (Salt Lake City: April 2003).

FIGURE 7

Population Distribution



residential, commercial, and industrial land to accommodate our expanding economy and population."[3]

The commission has developed six principles that it believes, if followed, will ensure quality growth in Utah. The Division of Water Resources encourages communities within the Weber River Basin to follow these principles as they work to meet their future water resources needs (those directly related to water are shown in bold type):

1. Local Responsibility – Local governments are responsible for planning and land use decisions in their own jurisdictions in coordination and cooperation with other government entities.
2. State Leadership – The state's role is to provide planning assistance, technical assistance, information and incentives for local governments to coordinate and cooperate in the management of growth.
3. Economic Development – The state shall promote a healthy statewide economy and quality of life that supports a broad spectrum of opportunity.
4. **Efficient Infrastructure Development** – State and local governments and the private sector should cooperate to encourage development that promotes efficient use of infrastructure and **water** and energy resources.
5. Housing Opportunity – Housing choices and housing affordability are quality of life priorities and state and local governments should cooperate with the private sector to encourage both.
6. **Conservation Ethic** – The public sector, private sector and the individual should cooperate to protect and conserve **water**, air, critical lands, important agricultural lands and historical resources.

The Greater Wasatch Area

Approximately 80 percent of Utah's future growth is projected to occur in the Greater Wasatch Area. Through extensive research and involvement of the public, the Quality Growth Efficiency Tools (QGET) Technical Committee and Envision Utah have gathered information about what residents of this area value and how they think growth should be accommodated. Based on this information, several issues were identified that are important to the Weber River Basin. These issues, which include improving air quality, increasing transportation options, and conserving and maintaining availability of water resources, need to be addressed in order to protect the environment and maintain economic vitality and quality of life.

To address these issues, Envision Utah developed specific quality growth strategies that seek to bring about change through means other than regulatory authority. Several of the strategies that either directly or indirectly influence water use include:[4]

- Promoting walkable development (encouraging new and existing developments to include a mix of uses with a pedestrian-friendly design);
- Fostering transit-oriented development (housing and commercial development that incorporates and encourages various forms of transportation);
- Preserving open spaces by including open areas in new development and providing incentives to reuse currently developed land; and
- Restructuring water bills to encourage water conservation.

If future growth in the Weber River Basin follows these strategies, the potential for water savings will be significant. A trend away from dispersed development toward more concentrated population centers would result in reduced lot sizes (0.32 acres to 0.29 acres) and lower per capita water use. This would translate into a decline in per capita water use in the basin of approximately 6 percent by the year 2020. Also, this pattern of future development would require fewer acres of agricultural land to accomodate urban development.

Rural Areas

Only a very small portion (about five percent) of the Weber River Basin's population is found in relatively small rural communities outside the Greater Wasatch Area (Henefer, Coalville, Wanship, Oakley, and Kamas for instance). While these communities share some of the same concerns that QGET and Envision Utah have

identified for the Greater Wasatch Area, they have their own unique needs. Responding to these needs, the Governor's Rural Partnership Office has created a program specifically designed to assist rural communities with their growth-related challenges. The goal of this program, entitled "21st Century Communities," is to provide planners and leaders in rural communities with the training, guidance and tools that will help them succeed in their planning efforts.

Part of the 21st Century Communities program is an assessment of a community's environmental quality. Items related to water resources that are part of this assessment include what the community is doing to:

- Guarantee its citizens have access to safe, high quality drinking water;
- Protect its ground water from pollution; and
- Ensure its wastewater is handled in a safe manner.

The state of Utah hopes that this program will help rural communities identify problems that need attention and tailor solutions that fit their own unique circumstances. Rural community leaders should take advantage of these valuable planning tools, which will undoubtedly help them avoid water and other resource problems.[5]

Water and Limitations on Growth

In most areas of the basin, water will not be a limiting factor on growth in the immediate future. However, in the Park City area and the Snyderville Basin, water has already become a critical component in the ability to sustain growth. In addition to the State Engineer closing the area to new appropriations, Summit County has implemented a "concurrency requirement" to all non-municipal water providers, which requires them to demonstrate they have adequate water to meet current and approved growth needs within their boundaries. Further complicating the issue is the State Engineer's ground water management plan which will regulate water withdrawals by priority date. In 2003, the State Engineer restricted water uses in the area due to the lack of water supply caused by the drought. Unless water is imported, growth will continue to be restricted in these areas.

PRESENT AND FUTURE USES OF THE WEBER RIVER BASIN'S WATER RESOURCES

Agricultural irrigation is, and will continue to be, the primary use of water in the Weber River Basin. Agriculture currently consumes about 69 percent of the basin's developed supply. Municipal and industrial (M&I) uses consume the remaining 31 percent of the developed supply. Environmental and recreational uses, which are generally not quantified in consumptive terms, are also significant uses of the basin's water resources. Increasing competition between each of these uses will continue to shape and reform the way the Weber River Basin's water resources are utilized. While the importance of each will increase, M&I water use is the only one that will actually increase because of anticipated population growth. As M&I water uses increase, agricultural and environmental uses will decline, and recreational uses will be impacted.

Municipal and Industrial

The Division of Water Resources recently completed an intensive study of M&I water supply and use in the Weber River Basin for the year 2001. Table 8 shows a summary of the basin's total M&I water use as estimated by this study. As shown, potable (water treated to drinking water standards) uses amounted to just over 105,000 acre-feet, or roughly 52 percent of total M&I use, in 2001. Non-potable uses (often referred to as secondary uses) amounted to just under 96,000 acre-feet in 2001, or 48 percent of total M&I use.

Also evident in Table 8 is that the majority of the basin's total M&I water is supplied by public community systems and secondary irrigation systems. In 2001, water supplied through these systems amounted to just over 185,000 acre-feet (99,179 plus 86,053), or 92 percent of the basin's total M&I use. Only about 8 percent, or 16,000 acre-feet of the basin's M&I water supply, is used by non-community systems, self-supplied industries or private domestic users.

TABLE 8
Total M&I Water Use by County (2001)

Use Category	Water Use (acre-feet)				
	Davis County	Morgan County	Summit County	Weber County	TOTAL
Potable Suppliers:					
Public Community Systems*	46,476	1,466	9,818	41,419	**99,179**
Public Non-Community Systems†	1,983	57	69	1,334	**3,443**
Self-Supplied Industries‡	1,620	6	1	70	**1,697**
Private Domestic§	80	400	150	300	**930**
POTABLE TOTAL	**50,159**	**1,929**	**10,038**	**43,123**	**105,249**
Non-Potable Suppliers:					
Secondary Irrigation Companies	43,418	240	1,637	40,757	**86,053**
Non-Community Systems	476	385	150	7,041	**8,051**
Self-Supplied Industries	0	252	274	300	**826**
Private Domestic	0	0	0	700	**700**
NON-POTABLE TOTAL	**43,894**	**877**	**2,061**	**48,798**	**95,630**
TOTAL	**94,053**	**2,806**	**12,099**	**91,920**	**200,879**

* A private or publicly owned system that provides water to at least 15 connections or 25 individuals year round.
† A private or publicly owned system that provides water to at least 25 temporary residents for at least 60 days per year.
‡ An industry that has its own water supply that is not part of a public system.
§ Private wells or springs that provide water to individual homes.

Table 9 presents water use for individual public community systems as estimated in the 2001 study. It also shows what portion of the total water supplied by these systems is treated to drinking water standards (potable) and what portion is delivered for irrigation purposes through secondary systems (non-potable).

Figure 8 contains the average per capita use rate of all the public community and secondary water systems in the Weber River Basin obtained by the division's 2001 study. Water used by self-supplied industries, private domestic and non-community systems is not shown. As indicated, residential water use amounts to 255 gallons per capita per day (gpcd), or 75 percent of the total (341 gpcd). Institutional water use represents 40 gpcd (12 percent), commercial 32 gpcd (9 percent), and industrial 14 gpcd (4 percent). The portion of residential water use that is applied to outdoor landscapes, 72 percent, is significantly higher than the 1995 statewide average of 65 percent. This is due in large part because of the significant number of secondary irrigation systems within the basin.

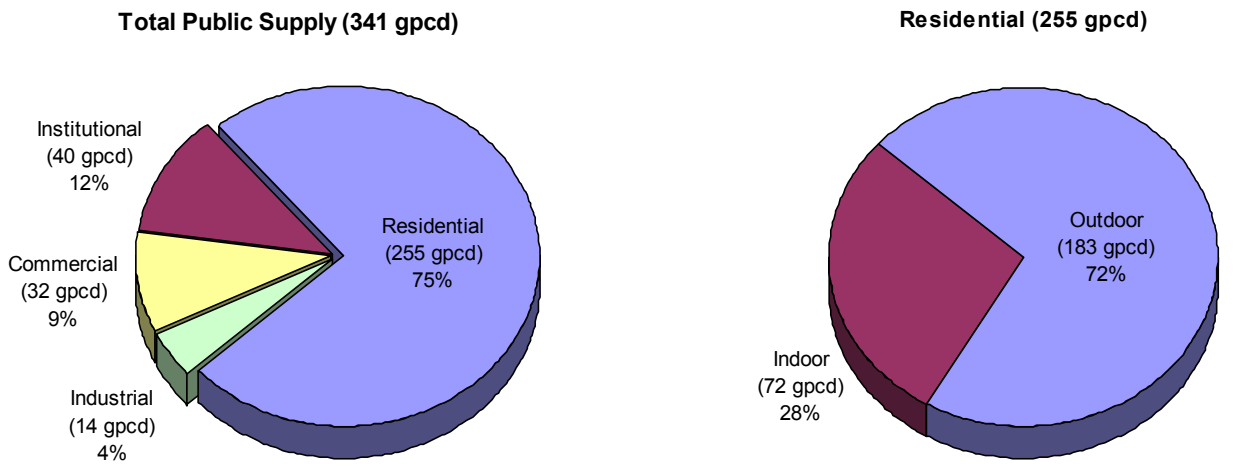
TABLE 9
Potable and Nonpotable Water Use in Public Community Water Systems (2001)

Public Community System	Water Use (acre-feet/yr)		
	Potable*	Nonpotable†	TOTAL
Davis County			
Bountiful City	5,369	11,745	**17,114**
Centerville City	1,465	2,160	**3,625**
Clearfield City	8,863	0	**8,863**
Clinton City	1,187	3,600	**4,787**
Farmington City	1,397	3,050	**4,447**
Fruit Heights	443	746	**1,189**
Hill Air Force Base	3,032	2,640	**5,672**
Kaysville City	2,440	5,700	**8,140**
Layton City	11,441	3,174	**14,615**
Mutton Hollow Improvement District	211	828	**1,039**
North Salt Lake	3,830	485	**4,315**
South Davis Water Improvement District	1,041	98	**1,139**
South Weber City	802	468	**1,270**
Sunset Municipal Water System	1,293	0	**1,293**
Syracuse Water System	984	1,127	**2,111**
West Bountiful Water System	985	247	**1,232**
Weber Basin Water Conservancy District	-	6,000	**6,000**
West Point Water System	662	1,340	**2,002**
Woods Cross Water System	1,034	10	**1,044**
COUNTY TOTAL	**46,476**	**43,418**	**89,894**
Morgan County			
Croyden Pipeline Company	18	5	**23**
Enterprise Estates Water Association	14	24	**38**
Highlands Water Company	198	0	**198**
Monte Verde Water Association	36	0	**36**
Morgan City Corporation	873	150	**1,023**
Mountain Green Subdivision Water Association	15	0	**15**
Peterson Pipeline Company	95	25	**120**
Richville Pipeline Company	14	33	**47**
South Littleton Water Company	5	3	**8**
S. Robinson Spring Water Users	12	0	**12**
West Enterprise Water Association	12	0	**12**
Wilkinson Water Company	174	0	**174**
COUNTY TOTAL	**1,466**	**240**	**1,706**
Summit County			
Bridge Hollow Water Association	9	0	**9**
Cluff Ward Pipeline Company	28	0	**28**
Coalville City Water System	245	300	**545**
Community Water Company	163	0	**163**
Echo Mutual Water System	20	15	**35**
Fancis Town Water System	163	60	**223**
Gorgoza Mutual Water Company	583	0	**583**
Henefer Town	121	60	**181**
Hoytsville Pipeline Company	95	50	**145**
Kamas City Water System	412	0	**412**

Public Community System	Water Use (acre-feet/yr) Potable*	Nonpotable†	TOTAL
Summit County (continued)			
Marion Waterworks Company	90	20	**110**
Mountain Regional Special Service District	1,295	20	**1,315**
Oakley Town Water System	190	320	**510**
Park City Culinary Water	3,748	712	**4,460**
Peoa Pipeline Company	40	20	**60**
Summit County Service Area #3	80	0	**80**
Summit Park Special Service District	382	0	**382**
Summit Water Distribution	1,840	0	**1,840**
Timberline Special Improvement District	16	0	**16**
Wanship Cottage Sites	2	2	**4**
Wanship Mutual Water Company	22	40	**62**
Wooden Shoe Water Company	11	10	**21**
Woodland Hills Water Company	194	0	**194**
Woodland Mutual Water Company	70	8	**78**
COUNTY TOTAL	**9,818**	**1,637**	**11,455**
Weber County			
Abbey of the Holy Trinity	12	500	**512**
Bona Vista Water District	4,365	3,550	**7,915**
Casey Acres Water Company	3	26	**29**
Cole Canyon Water Company	29	30	**59**
Durfee Creek Subdivision	9	0	**9**
Eden Waterworks System	178	200	**378**
Green Hill Country Estates	28	0	**28**
Hooper Water Improvement District	1,512	3,000	**4,512**
Huntsville Municipal Water System	181	400	**581**
Lake View Corporation	33	0	**33**
Liberty Pipeline Company	382	78	**460**
Nordic Mountain Water Company	54	0	**54**
North Ogden Municipal Water	1,274	2,800	**4,074**
Ogden City	21,500	11,000	**32,500**
Pineview West Water Company	10	35	**45**
Pleasant View Culinary Water	571	600	**1,171**
Pole Patch Water System	38	0	**38**
Riverdale City	2,467	120	**2,587**
Roy Municipal Water System	4,076	5,000	**9,076**
South Ogden City	1,637	3,000	**4,637**
Sunridge Subdivision Water	1	0	**1**
Taylor-West Weber Water Improvement Dist.	1,159	2,200	**3,359**
Uintah Municipal Water System	314	200	**514**
Uintah Highlands Improvement District	293	950	**1,243**
Washington Terrace Municipal Water	963	1,500	**2,463**
Weber Basin Water Conservancy District	-	5,000	**5,000**
West Warren Improvement District	212	518	**730**
Wolf Creek Water and Sewer Company	120	50	**170**
COUNTY TOTAL	41,419	40,757	**82,176**
WEBER BASIN TOTAL	**99,179**	**86,052**	**185,231**

* Water that is treated to drinking water standards, also called “culinary” water.
† Water that is not treated to drinking water standards that is applied to outdoor landscapes, also called “secondary” water. This water is often supplied to the entity listed by a separate irrigation company or conservancy district (not shown).

FIGURE 8
Breakdown of Public Community System Water Use Including Secondary Water (2001)



(Source: Division of Water Resources, Municipal and Industrial Water Supply Studies Program, 2004.)

Table 10 shows estimates of total M&I water use for 1992, 2001, 2020 and 2050. The Division of Water Resources derived the 2020 and 2050 projections using the *Utah Water Demand/Supply Model*. This model utilized the Governor's Office of Planning and Budget's population projections and the M&I data collected by the division in 1992 and 2001. Clearly the M&I water needs in Davis and Weber counties are the largest; however, water demands in the other counties, especially Summit County are growing rapidly.

Agriculture

While other parts of the state have become somewhat less reliant upon agriculture and more reliant upon tourism, recreation, services and technology for their economic base, agriculture has

TABLE 10
Past, Present and Projected Total M&I Water Use by County

County	Water Use (acre-feet/yr)			
	1992*	2001*	2020†	2050†
Davis	72,000	94,100	132,000	153,000
Morgan	3,000	2,800	4,000	6,000
Summit	8,000	12,100	23,000	42,000
Weber	86,000	91,900	127,000	180,000
BASIN TOTAL	**169,000**	**200,900**	**286,000**	**381,000**

* Data obtained by the Division of Water Resources through its intensive M&I Water Supply Studies program.
† Projections are estimated by the Division of Water Resources' "Utah Water Demand/Supply Model," May 2004.

maintained a relatively steady, although small, part of the economy of the Weber River Basin. Although declines in agricultural acreage are occurring across the basin, those acres remaining are becoming more productive. This is evident in the recent upward trend in agricultural employment. From 1980 to 2000, agricultural employment in the basin rose slowly, with the largest gains occurring in Weber County.[6] Future projections show agricultural employment declining through 2050.

Table 11 lists estimates of agricultural cropland in the basin for 2003. As shown, the basin has about 111,000 acres of irrigated land and an additional 26,000 acres of non-irrigated or dry-crop land. In 2003, over 90,000 acres, or 81 percent of the basin's irrigated acres, were used to raise feed such as alfalfa, grass hay and pasture for the livestock industry. Less than 19 percent of the irrigated acres within the basin were used to grow high-value vegetables, fruits and other specialty crops.

TABLE 11
Agricultural Cropland by County (2003)*

	Acres				
Crop	Davis	Morgan	Summit	Weber	TOTAL
Irrigated Cropland					
Alfalfa	4,796	3,584	3,083	14,595	**26,058**
Grass Hay	1,108	3,020	9,482	2,886	**16,496**
Pasture	13,964	2,571	15,164	16,019	**47,718**
Grain	2,043	962	571	2,769	**6,345**
Sorghum	0	0	33	3	**36**
Corn	2,641	366	0	3,756	**6,763**
Onions	403	0	0	156	**559**
Potatoes	6	0	54	0	**60**
Tomatoes	0	0	0	5	**5**
Other Vegetables	691	0	0	202	**893**
Fruit	504	4	5	161	**674**
Nurseries	23	0	0	17	**40**
Grass/Turf	105	28	2	61	**196**
Fallow	133	32	40	167	**372**
Idle	2,131	205	197	2,470	**5,003**
IRRIGATED TOTAL	**28,548**	**10,772**	**28,631**	**43,267**	**111,218**
Non-Irrigated					
Dry Alfalfa	32	1,065	1,093	473	**2,663**
Dry Pasture	1,539	2,462	4,847	2,906	**11,754**
Dry Grain/Beans/Seeds	10	2,667	636	12	**3,325**
Dry Fallow	11	9	0	12	**32**
Dry Idle	1,786	1,304	562	4,394	**8,046**
NON-IRRIGATED TOTAL	**3,378**	**7,507**	**7,138**	**7,797**	**25,820**
TOTAL CROPLAND	**31,926**	**18,279**	**35,769**	**51,064**	**137,038**

* Data was collected during the summer of 2003 as part of the Division of Water Resources' intensive water-related land use program. For further information and GIS data from this program, see: www.water.utah.gov/planning/landuse/.

TABLE 12
Past, Present and Projected Irrigated Cropland

County	Irrigated Acres*				
	1987†	1999†	2003†	2020‡	2050‡
Davis	37,827	31,329	28,548	17,800	12,200
Morgan	11,772	10,810	10,772	10,000	9,000
Summit	29,373	30,780	28,631	24,300	16,600
Weber	63,154	52,548	43,267	33,500	19,300
BASIN TOTAL	**142,126**	**125,467**	**111,218**	**85,600**	**57,100**

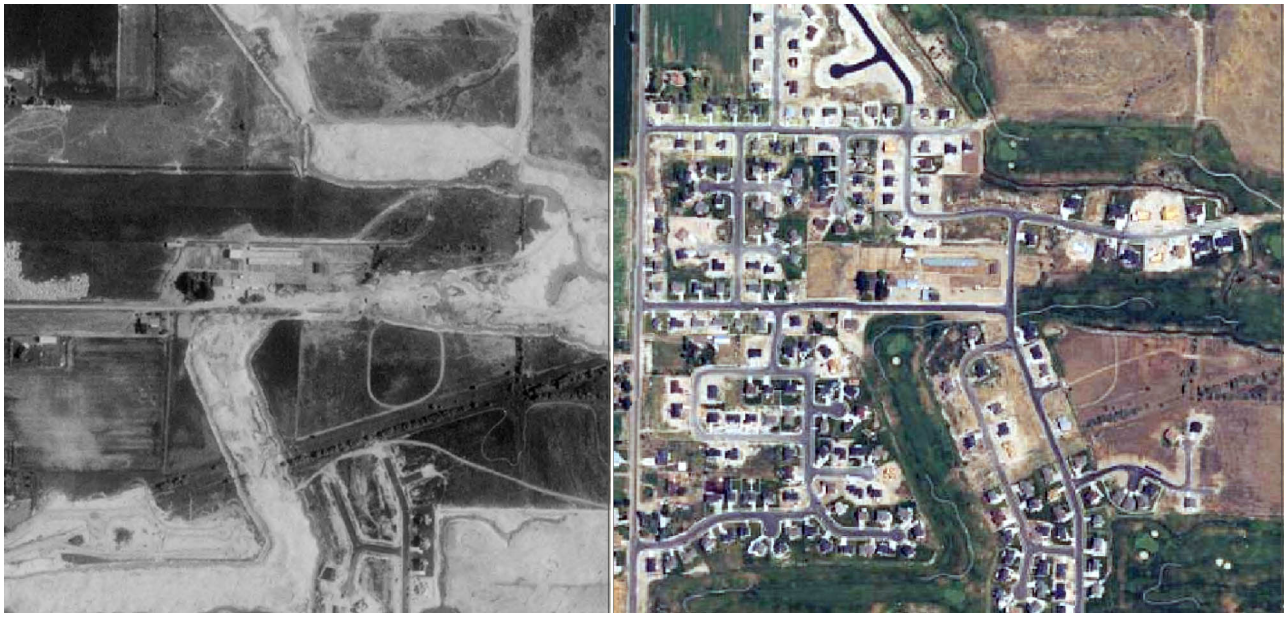
* The acres shown includes idle and fallow land that were likely not irrigated during the year shown, but could have been irrigated if adequate water were available.
† Data obtained by the Division of Water Resources through its intensive water-related land use program.
‡ Future projections are based on current population densities, future population, and estimates of what percentage of new growth will consume irrigate land. *(These numbers are preliminary and subject to revision.)*

Table 12 shows past, present and future projections of irrigated cropland within the Weber River Basin. As shown, the trend all along the Wasatch Front has been a rapid decrease in agricultural land as the growing population has converted farms to residential and commercial areas. In the rural areas of the basin (Morgan and Summit counties), agricultural acres remained relatively constant since 1987, but are expected to steadily decline in the future. These declines will likely continue well into the future with an estimated 54,100 *(this estimate is preliminary and subject to revision)* of irrigated cropland converting to urban uses between the years 2003 and 2050. Table 13 shows estimates of past, present and future agricultural water use on the irrigated cropland shown in Table 12. In most cases, a large portion of the water that was once used for agriculture will be converted to meet the water needs associated with the new urban land use.

TABLE 13
Estimated Past, Present and Future Agricultural Water Use/Diversions

County	Estimated Diversion (acre-feet)*				
	1987	1999	2003	2020	2050
Davis	125,700	96,100	89,400	60,500	41,500
Morgan	41,600	35,100	35,800	34,000	30,600
Summit	90,500	102,400	96,500	82,600	56,400
Weber	214,900	165,100	138,100	113,900	65,600
BASIN TOTAL	**472,700**	**398,700**	**359,800**	**291,000**	**194,100**

* Estimates of water use are based on a detailed water budget that used the 1987 land use data and climatic data from 1951-1980. This water budget estimated that 3.4 acre-feet of water was diverted per acre of irrigated cropland (idle and fallow acres excluded). *(Future projections are preliminary and subject to revision.)*



In many areas of the basin, agricultural lands are quickly becoming urban. These photos, taken around 1993 (left) and 1999 (right), show the rapid development of the Glen Eagle Golf Course Community in Syracuse.

In recent years, there has been a strong interest in preserving open spaces and other values associated with agricultural lands. This is especially true along the shore of the Great Salt Lake, where numerous reserves have been created and development rights to other agricultural lands have been purchased. With growth pressures mounting all along the lakefront, this trend is expected to continue, preserving many more acres from development.

Environment

More concern is being expressed about the environment than ever before and, with it, an awareness of society's effects on ecosystems. The Weber River, its tributaries and the Great Salt Lake are all important parts of the environment within the Weber River Basin. Instream flows in the Weber River and its tributaries sustain valuable habitat for wildlife, as do the wetlands of the Great Salt Lake, which is considered by many to be one of the state's most precious, yet under-valued resources. Properly balancing these environmental needs with other important water management objectives will allow future M&I demands to be met without compromising the quality of life that comes with healthy ecosystems.

Recreation

Recreation is an important component of water use within the Weber River Basin. Some of the most popular recreation activities in the basin are associated with its many and varied waterways. Popular recreational activities at lakes and smaller reservoirs include fishing, swimming and canoeing. At the basin's larger reservoirs, such as Pineview, Rockport, Echo, East Canyon and Willard Bay, motor boating is also very popular. Although fewer people participate in water sports such as rafting and kayaking, the Weber River from Henefer to the mouth of Weber Canyon and portions of the Ogden River are some of the more popular spots in the state for kayaking enthusiasts.

Recreational water use in Utah continues to grow very rapidly. While the state's population roughly increased 2.5 times from 1959 to 1998, the number of registered boats increased nine fold and the number of fishing licenses increased nearly three fold during the same period.[7] Many of these new recreationists visit the reservoirs and streams located in the Weber River Basin. Of the ten largest reservoirs located within the Greater Wasatch Area, seven of them are located in the Weber River Basin (Willard Bay, Pineview, Causey, Lost Creek, East Canyon, Echo and Rockport). All of these have facilities to serve the various needs of recreationists. Willard Bay, East Canyon, Echo and Rockport reservoirs also have State Parks.

The Division of State Parks and Recreation has conducted numerous studies of recreation in Utah. These surveys estimate that 95 percent of those boating in Utah are from within the state. These boaters indicated that most reservoirs within the Weber River Basin were not overly crowded. However, most of them felt boater limits should be enforced at Pineview Reservoir and several felt that limits may also be appropriate for East Canyon and Echo reservoirs. Despite these concerns, those surveyed felt optimistic that if they could not get their boat into the reservoir of their choice, there were sufficient alternatives nearby.[8]

As the population in the basin and along the Wasatch Front increases, so will the demand for winter skiing. This increased demand could impact commercial water use slightly within the basin, as ski resorts turn to artificial snowmaking to extend the ski season and enhance the skiing experience for their custormers.

NOTES

[1] Economic and employment information was retrieved from the Internet from the Governor's Office of Planning and Budget, Demographic and Economic Analysis Section's web page: www.governor.utah.gov/dea/, January 2003.

[2] Estimates of growth rates are derived from "2002 Baseline City Population Projections," provided to the Division of Water Resources by the Governor's Office of Planning and Budget in April of 2003.

[3] From a handout presented to the Board of Water Resources by the Utah Quality Growth Commission, September 19, 2003.

[4] Governor's Office of Planning and Budget, *Strategy Analysis: QGET Quality Growth Efficiency Tools*, (Salt Lake City, 2000), 49, 50.

[5] More information about 21st Century Communities can be obtained online at: http://utahreach.org/rosie/21/.

[6] Governor's Office of Planning and Budget, UPED Model. Retrieved from the GOPB's web page, July 2002: http://governor.utah.gov/dea/Projections/projections.html.

[7] Utah Division of Parks and Recreation, *State of Utah: Strategic Boating Plan,* (Salt Lake City: Utah Dept. of Natural Resources, 2000) and license sales records.

[8] Utah State University Institute for Outdoor Recreation and Tourism, *A Summary Report: 2001 Utah State Park Boater Intercept Survey,* (Logan: USU Press, 2002). Prepared in cooperation with the Utah Division of State Parks and Recreation.